

# Wiki, Blog, Forum and Nuclear News

Knowledge Objects in Nucleonica

Zsolt Soti

# Knowledge Management

- The aim is to produce high quality information resources which are easily accessible.
- The electronic knowledge objects (EKO):
  - Scientific applications
  - Nuclear Data
  - Nucleonica Wiki
  - Blog, Forum
  - Nuclear News

# Nucleonica Wiki

- Wikipedia like application
- Provides technical documentation
- Edited by Nucleonica experts and consultants

Nucleonica - Portal - Windows Internet Explorer

http://www.nucleonica.net/Application/CommunityPortal.aspx

File Edit View Favorites Tools Help

Nucleonica - P... How to access M... ITU Intranet Google Translate... FreeMail von WE... SysLog Web For... C:\Documents an... Page Tools

Logged in as: zsoft Networking Nuclear Science Search Forum Calculator Privacy Legal Logout

# nucleonica ... web driven nuclear science

Applications Data Knowledge My Preferences Print Help New Browser

Wiki

- Ask an Expert
- FAQ
- Element Information
- Karlsruhe Nuclide Chart
- Glossary
- Blog
- Nuclear News
- Forum
- Conference Calendar

» Nucleonica Network

- Networking
- My Profile
- My Community
- My Mailbox
- My Groups
- My Settings

» Tools

- Forum
- Conference Calendar
- webGraph
- Marketplace

» Applications Portal

- nuclear science

» Coming soon

- WESPA

nucleonica [wiki]

## » Joint EC/IAEA Training course with Nucleonica announced

März 19, 2010

The next Nucleonica training course will be organised jointly with the JRC ITU and the IAEA. The course will take place from the 12-15th Oct. 2010 at the IAEA Marine Environment Laboratory (MEL) in Monaco.

## » Nucleonica Blog

### » Nuclear Co-operation between Jordan and Japan

A nuclear cooperation agreement has been recently signed between Japan and Jordan, to build Jordan's first 1,000 MW reactor. Both Jordan and Japan are aiming at having the agreement ratified by early October, so that talks can progress between JAEC and Areva-Mitsubishi on the Atmea-1 reactor. Two others companies short-listed for the project are Atomic [...]

### » New half-life determination of selenium-79

Due to its long half-life, Se-79 is one of only a few nuclides that determine the long-term radiological impact of a repository on the environment. Over the years, a number of half-life determinations have been made. Results lie in the range 124 thousand years to 1.13 million years. This new measurement (1) of 327 thousand [...]

### » Conan the bacterium is back again!

In a recent paper (1), an explanation is postulated on how "Conan the Bacterium" can survive massive amounts of radiation which normally kills cells. The survival mechanism is based on protecting its proteins from oxidation – this saves the DNA repair enzymes from radiation damage. Background (2): The bacterium Deinococcus radiodurans or D. radiodurans, which means [...]

### » Nucleonica participation in ENETRAP Training Course

The Nucleonica team will participate in the European Radiation Protection Training Scheme (ERPTS) Pilot modules. The courses will be held in English as part of the activities of the EU Project ENETRAP II. The training course will take place at the Karlsruhe Institute of Technology (KIT) Center for Advanced Technological and Environmental Training. Further information [...]

### » 45 new neutron rich isotopes identified

T. Ohnishi et al., have recently reported the identification of 45 new neutron-rich isotopes produced by the in-flight fission of a 238U beam at 345 MeV/nucleon. The experiments have been carried out at the RI Beam Factory at the RIKEN Nishina Center. Fission fragments were analyzed and identified by using the superconducting in-flight separator BigRIPS. The [...]

## Welcome, Zsoft





My Settings

My Profile My Community

» My Community Events

- You have 0 new messages
- You have 0 new contact list requests

» Recent Nucleonica Members

	Frank Vanderlinden		Krasimira Pistuhina
	Jivko Tenev		Lawrence Thorne

## » Nucleonica Forum

### » How is Mo99 produced?

In nuclear medicine, the nuclide technetium-99m, Tc99m, is often mentioned in connection with in-vivo gamma irradiation. The parent nuclide of Tc99m...

### » Fission fragments versus fission products: what is the difference?

In Nucleonica, webKorin computes the quantities of "fission products", while the "Fission Product" yields module displays and compares yields from...

### » Range & Stopping Power of fission product ions in materials

Can the Range & Stopping Power module be used to calculate the ranges of fission product ions in

- Most of the entries under Help are links to the technical documentation

Windows Internet Explorer window showing the NucleonicaWiki "All pages" page.

The browser address bar shows: <http://www.nucleonica.com/wiki/index.php?title=Special%3AAllPages/Help%3A>

The page title is "All pages".

The left sidebar contains navigation links:

- navigation
  - Main Page
  - Help
  - Glossary
  - Element Information
  - ReadingRoom
  - Gallery of Nuclear Science
  - Weblinks
  - Karlsruhe Nuclide Chart
  - Premium
  - Membership
- support
  - Training Courses
  - Case Studies
  - Nucleonica Support
- tools
  - Recent changes
  - Random page
- search
  - Search box with "Go" and "Search" buttons
- toolbox
  - Special pages

The main content area displays a list of pages under the "Help" namespace:

Help
Cambio File Converter
Decay Engine
E-SHIP
Gamma Library
Mass Activity Calculator
Neutron Activation with webKORIGEN
Nucleonica Database
Nuclide Explorer
Range & Stopping Power
Universal Nuclide Chart
WebGraph
Conference Calendar
Decay Engine for Large Nuclide Sets
EasyMonteCarlo
Gamma Spectrum Generator
Mass Activity Converter
Nuclear Data Retrieval
Nucleonica for Smartphones
Nuclide mixtures
Scripting language documentation
Virtual Cloud Chamber
WebKORIGEN
Contents
Dosimetry & Shielding
Fission Products and Yields
In Silico Dosimetry
MyGroups
Nuclear Media Monitor
Nuclide Datasheets
Physical Constants
Transport & Packaging
WESPA

The footer contains links: Privacy policy, About NucleonicaWiki, Disclaimers.

## Stay in Touch with Nucleonica Networking (V. Kleinrath)

### Testimonials

*"Excellent training, prima organised. Many thanks to the organising committee." (Christian Wille)*

*"Excellent & super helpfull course. The best chioce of speakers! The combinations of the excersises with the lectures was great." (Avi Sharon)*

*"This training course was really tutorial, informative and efficiently organized." (Matteo Rini)*

*"...And I hope Nucleonica will be like a key word for nuclear chemists and nuclear physics" (Zeynep Talip)*

*"Very usefull course, a lot of interesting presentations. I met here many experts and high qualification specialists" (Ilgor Maliuk)*

*"Very interesting lectures and exercises, I have learnt a lot!! Thank you very much to all speakers!" (Michaela, Smcik)*

*"First of all I would like to thank all of the people who had put effort to this workshop and developing nucleonica. It was great to hear all those knowledgefull talks from specialist all around the world. Sharing ideas and connecting with colleagues from other institutions was an excellent experience. When I get back to Turkey I will share all my experience with my colleagues in Turkey..." (Tolga Inal)*

*"I found the course was very helpfull to learn how the nucleonica works and what it is capable of doing. The different seminars were positive. They linked the theory with real life, so that it was possible to get a filling of dangers and the security needed." (Marika Vespa)*

*"I deeply appreciated the wise combination of high quality lectures and exercises, as well as the efficient organization of the various activities." (Francesca Quinto)*

*"...Congratulations! great and modern platform, which deserves attention.." (Rolf Arit)*

*"This course was very educational and usefull for my investigations" (Banu Özden)"*

## April 2009 Karlsruhe

[\[edit\]](#)

### 1st Advanced Training Course on Illicit Trafficking and Consequence Management with NUCLEONICA, Karlsruhe, April 22-24th, 2009.

The 1st Advanced Training Course on Illicit Trafficking and Consequence Management with NUCLEONICA took place at the Institute for Transuranium Elements, Karlsruhe, Germany, from the 22 - 24th April 2009. In contrast to the previous, more general Nucleonica training courses, this was the first course devoted specifically to the use of Nucleonica within the fields of Illicit Trafficking and Consequence Management. The course was aimed at persons who provide technical support (measurements, interpreting results, drawing conclusions, making recommendations) for the actions in response to illicit trafficking incidents and radiological events. The participants included physicists, radio-chemists, health physicists, technical experts from national law enforcement agencies and regulatory authorities, who may be involved in the assessment of such events. In total, 24 participants from Turkey, Macedonia, Russia, Ukraine, Moldova, Azerbaijan, Germany and Austria took part. Invited speakers included R. Abedin-Zadeh (IAEA), H.-W. Wiese, Karlsruhe Institute of Technology, E. Kröger (Bundesamt für Strahlenschutz, BfS), P. Peerani, (IPSC, JRC Ispra), Mustafa Tufan (Ondokuz Mayıs University, Samsun).



ITRAC-1 Group photo April 2009, Institute for Transuranium Elements, Karlsruhe, Germany

# Other main pages:

All pages - NucleonicaWiki - Windows Internet Explorer

http://www.nucleonica.com/wiki/index.php?title=Special%3AAllPages/Help%3A

Live Search

Log in

special page

All pages

nucleonica [wiki]

navigation

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Display pages starting at:

Display pages ending at:

Namespace: Help

Cambio File Converter

Decay Engine

E-SHIP

Gamma Library

Mass Activity Calculator

Neutron Activation with webKORIGEN

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EasyMonteCarlo

Gamma Spectrum Generator

Mass Activity Converter

Nuclear Data Retrieval

Nucleonica for Smartphones

Nuclide mixtures

Scripting language documentation

Virtual Cloud Chamber

WebKORIGEN

Contents

- Dosimetry & Shielding
- Fission Products and Yields
- In Silico Dosimetry
- MyGroups
- Nuclear Media Monitor
- Nuclide Datasheets
- Physical Constants
- Transport & Packaging
- WESPA

Privacy policy About NucleonicaWiki Disclaimers

Help:Dosimetry & Shielding - NucleonicaWiki - Windows Internet Explorer

http://www.nucleonica.com/wiki/index.php?title=Help%3ADosimetry\_%26\_Shielding

Live Search

Favorites

Help:Dosimetry & Shielding - NucleonicaWiki

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- What links here
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view source

history

## Help:Dosimetry & Shielding

Level: Introductory, Intermediate

In this section the formalism for dosimetry and shielding calculations is developed. In the following sections a brief description of the interaction of radiation with matter is given together with the physical basis of radiation dosimetry and shielding.

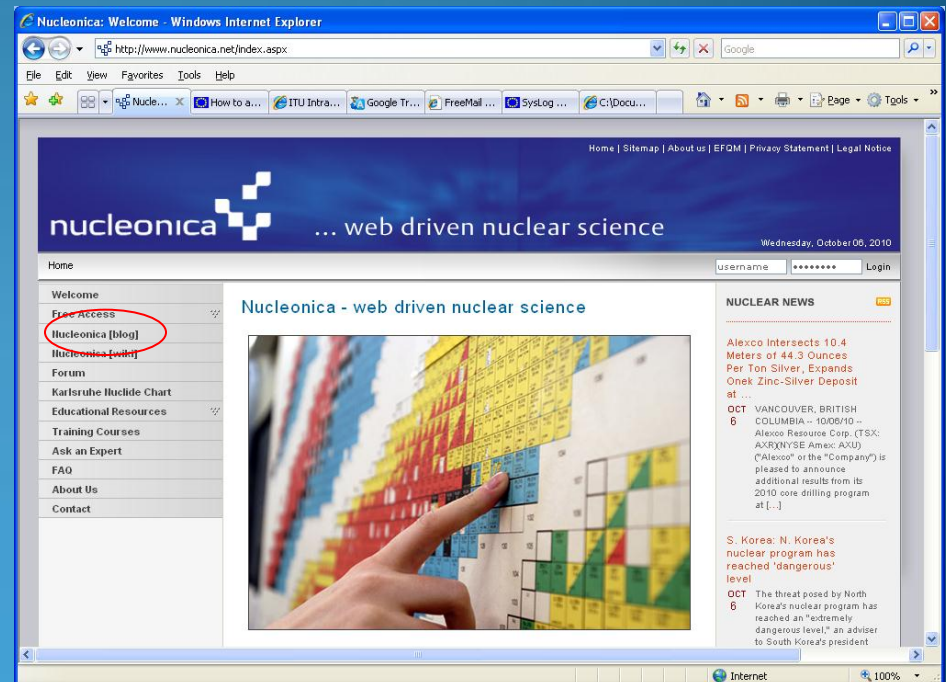
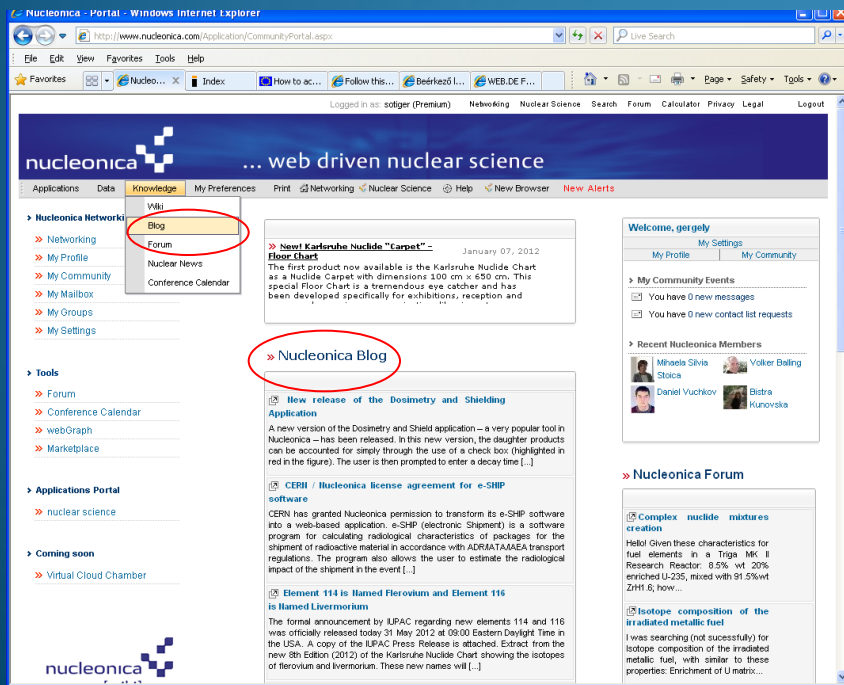
Contents [hide]

- 1 Biological Effects of Ionising Radiation
- 2 Absorbed Dose
  - 2.1 Quality or Weighting Factor
  - 2.2 Equivalent Dose
  - 2.3 Effective Dose
  - 2.4 Committed Effective Dose, E(r)
  - 2.5 Collective Effective Dose
  - 2.6 Radiotoxicity and Annual Limits of Intake (ALI)
  - 2.7 Radiation Hormesis and the Linear Non-Threshold (LNT) Model
- 3 Attenuation of Gamma Radiation
- 4 Absorption of Gamma Radiation
- 5 Calculation of the Equivalent Dose Rate in Tissue
- 6 Absorption in Tissue
  - 6.1 Data for Tissue
  - 6.2 Example Co-60
- 7 Attenuation in Shield Materials
  - 7.1 Lead
  - 7.2 Concrete
  - 7.3 Iron
  - 7.4 Tin
  - 7.5 Tungsten
  - 7.6 Uranium
  - 7.7 Water
  - 7.8 Aluminum
  - 7.9 Air
  - 7.10 Tissue



# Nucleonica Blog

- Provides latest information on Nucleonica portal and related products such as Karlsruhe Nuclide Chart
- There are two main categories:
  - The Karlsruhe Nuclide Chart
  - Nucleonica



Nucleonica Blog - Windows Internet Explorer

http://www.nucleonica.com/blog/

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Favorites

Nucleonica Blog

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blog  
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[Blog](#) [About](#)

## Package decay in e-Ship

October 12th, 2012


by Joseph Magill

It is now possible to account for radioactive decay in a package in Nucleonica's e-Ship. Once a package has been selected in the My Packages tab, a decay calculation can be performed in the Decay tab. In the fig. below, on the left hand side the package nuclides are shown together the activity reported date. On pressing the Start button, the package is decayed using the current date as default (any other date can also be selected). Various filters are available for example for removing stable daughters.

nucleonica

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### e-Ship

radiological transport assistant

This is a beta version of the new web application e-Ship. Please report errors to [info@nucleonica.com](mailto:info@nucleonica.com).

[Questions, remarks](#)

My Packages Edit Options Decay Import Activity limits CERN file Sample packages About e-Ship

Activity reported: 2012.02.27 08:00:00

New date: 2012.10.12 08:07:57

Distinct nuclides only: ☐

Search

### About this blog

What's New in Nucleonica... Blog - News from the Nucleonica Team

### Subscribe to the Blog

You can stay up to date with Nucleonica Blog via these feeds:

☒ [Subscribe via RSS](#)

or [subscribe via email](#)

### Categories

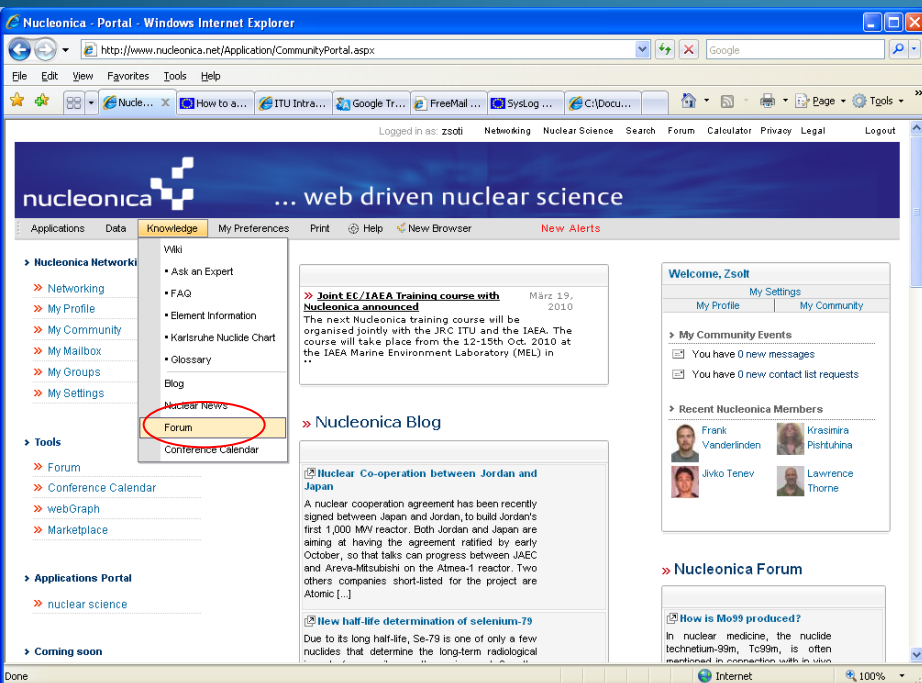
[Karlsruhe Nuclide Chart Nucleonica](#)

### Nuclear News

**Australian state lifts uranium mining ban, eyes India** October 23, 2012  
(ChinaPost.com.tw) - Australia's mineral-rich state of Queensland reversed a

# Nucleonica Forum

- Question and answer interaction between the experts
- Scientist can assist each others on a reciprocal basis
- New knowledge can be created through the dialogue and discussion



Nucleonica forums - Windows Internet Explorer

http://www.nucleonica.net/forum/

File Edit View Favorites Tools Help

Nucleonica forums


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Advanced Search

Forum


If this is your first visit, be sure to check out the [FAQ](#) by clicking the link above. You may have to [register](#) before you can post: click the register link above to proceed. To start viewing messages, select the forum that you want to visit from the selection below.


Nucleonica forums  
Welcome to the Nucleonica forums.


Nucleonica Portal	Last Post
 <b>General</b> (1 Viewing) General comments	<b>Threads:</b> 85 <b>Posts:</b> 160 <b>Last Post:</b> What does "rel.eff. xx.x%" ... <b>by aberlizov</b> 27-09-10, 17:09





Mark Forums Read | View Forum Leaders

What's Going On?

 **Currently Active Users**  
 There are currently 2 users online. 0 members and 2 guests  
 Most users ever online was 44, 04-06-10 at 22:42.

 **Nucleonica forums Statistics**  
 Threads 85 Posts 160 Members 215 Active Members 19  
 Welcome to our newest member, kaipityler

 **Icon Legend**

-  Contains unread forum posts
-  Contains no unread forum posts
-  Forum is a category
-  Forum is a Link

**Main Forum**

Hello Mike, here are the answers to your questions: 1) in every simulation run the GSG (in addition to a user's task) calculates the Full Energy Peak (FEP) efficiency for a monoenergetic 1.33...  
 27-09-10 17:09  
**What does "rel.eff. xx.x%" really...**

I have the same problem. the GSG overestimated the relative efficiency of Ge detector. Also, I have observed that generated spectra for Co-60, Ba-133 and Na-22 are higher than the actual...  
 24-09-10 20:08  
**What does "rel.eff. xx.x%" really...**

Lets start by assuming Mo99 is produced directly as one of the two fission products. Typically the number of neutrons produced in the fission process is small, either 2 or 3. Let's assume 3, then, in...  
 10-09-10 13:30  
**How is Mo99 produced?**

In nuclear medicine, the nuclide technetium-99m, Tc99m, is often mentioned in connection with in-vivo gamma irradiation. The parent

http://www.nucleonica.net/forum/forum.php

Internet 100%



General - Windows Internet Explorer

http://www.nucleonica.net/forum/forumdisplay.php?3-General

Live Search

General

Forum Nucleonica Portal General












If this is your first visit, be sure to check out the [FAQ](#) by clicking the link above. You may have to [register](#) before you can post: click the register link above to proceed. To start viewing messages, select the forum that you want to visit from the selection below.

+ Post New Thread

Threads 1 to 20 of 115 Page 1 of 6 1 2 3 ... Last

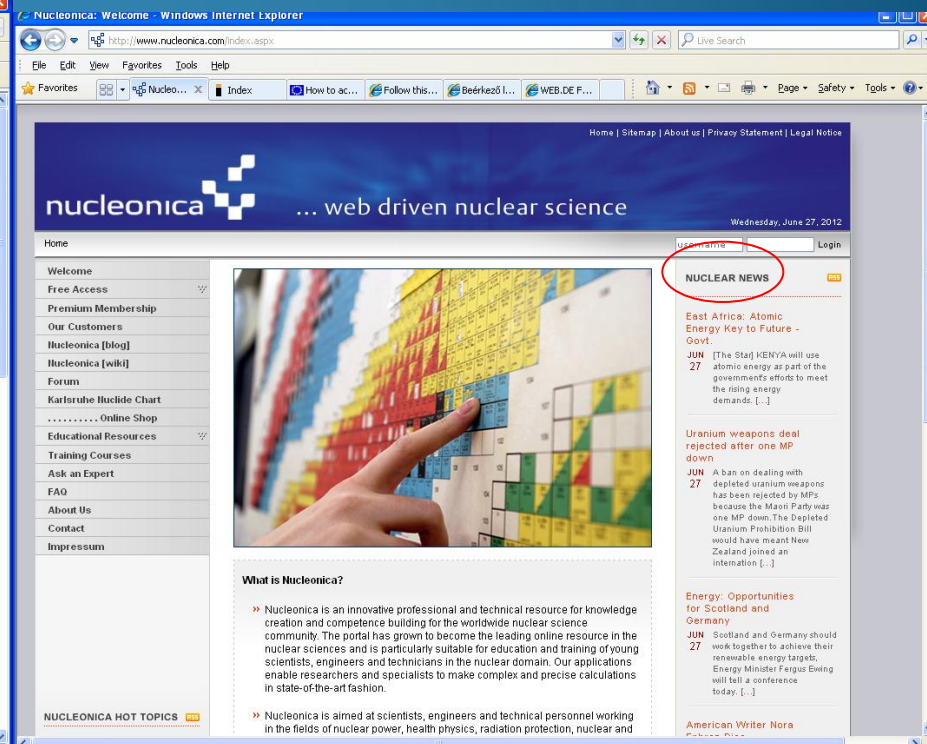
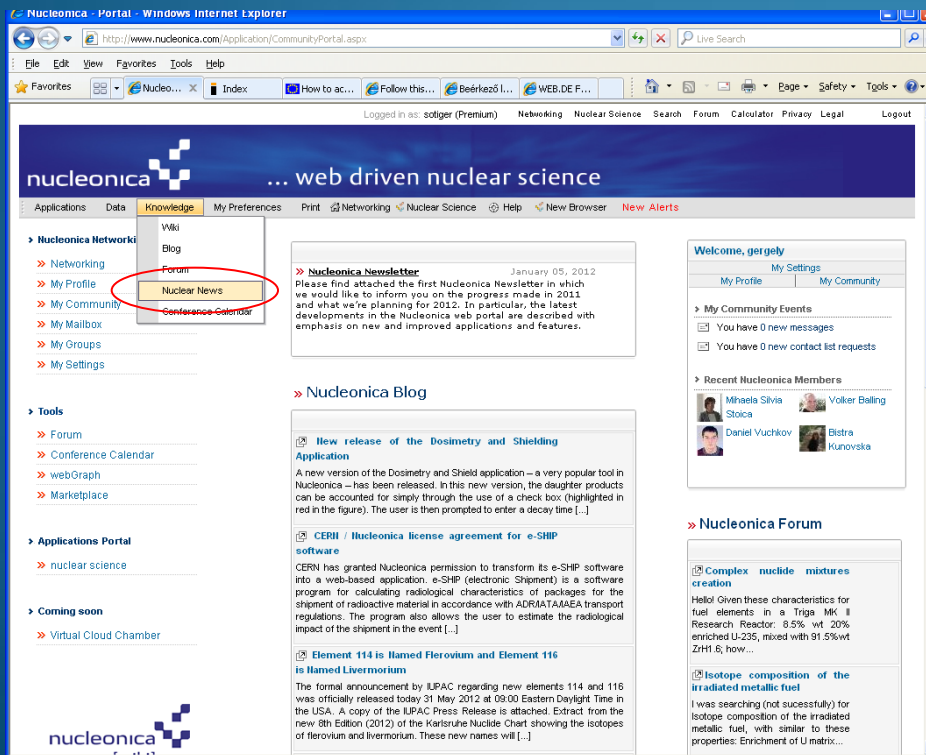
Forum: General  
General comments

Forum Tools Search Forum

Title / Thread Starter	Replies / Views	Last Post By
 <b>Complex nuclide mixtures creation</b> Jeremie Muswema	Replies: 1 Views: 9	HotCells Today 09:04
 <b>webKORIGEN</b> Ales	Replies: 1 Views: 159	Ales 19-06-12 16:50
 <b>Isotope composition of the irradiated metallic fuel</b> Ales	Replies: 0 Views: 26	Ales 19-06-12 06:58
 <b>webKORIGEN</b> Ales	Replies: 6 Views: 235	HotCells 18-06-12 07:02
 <b>webKORIGEN, combining results of calculation in case of two or more reactors</b> Ales	Replies: 4 Views: 194	Ales 17-06-12 19:12
 <b>Core Inventory in Bq?</b> Jeremie Muswema	Replies: 6 Views: 203	Jeremie Muswema 30-05-12 21:05
 <b>Individual designed detectors with Gamma Spectrum Generator Pro</b> Jucamo	Replies: 7 Views: 303	Jucamo 14-05-12 12:07
 <b>Decay Engine</b> Ales	Replies: 2 Views: 147	jmagill 09-05-12 10:41
 <b>Mixture selector</b> Vincenzo Romanello	Replies: 2 Views: 141	Vincenzo Romanello 02-05-12 17:19
 <b>webKORIGEN</b> Ales	Replies: 1 Views: 110	HotCells 02-05-12 14:36
 <b>Emergency preparedness analysis for decision-making</b> Jeremie Muswema	Replies: 2 Views: 169	Jeremie Muswema 17-04-12 16:18

# Nuclear News

- It is an aggregation service that provides latest news on nuclear issues
- A web-crawler scans thousands of newspapers worldwide on an hourly basis



# Exercise - EKO

1. Please find some information about the element Einsteinium,
2. ...and about the Monte Carlo method.
3. Add yourself to the Group: Nucleonica Training Course...
4. Subscribe to Nucleonica blog via email

# Exercise - EKO

1. Nucleonica Wiki – Element information
2. Nucleonica Wiki – Glossary
3. Networking -> My groups -> Join Group
4. Knowledge -> Blog -> Subscribe via email



# Thank you!

